

Cartridge body 230 further includes a pair of proximally extending guide wings 238a and 238b which serve to guide staple cartridge body 230 into housing 210 during assembly. More particularly, guide wings 238a and 238b have respective angled guide surfaces which are dimensioned and configured to cause the proximal end of staple cartridge body 230 to slide relative to the floor 242c of housing 210 as the staple cartridge body is engaged beneath a pair of inwardly extending housing projections 248a and 248b (FIG. 22).

Referring now to FIGS. 23a-23c, there is illustrated another actuator constructed in accordance with an alternative embodiment and designated generally by reference numeral 310. Actuator 310 is configured to translate through staple cartridge body 230 in the same manner as actuator 110 to sequentially eject a plurality of surgical fasteners therefrom, and includes a base portion 312, a first set of upstanding cam plates 314a and 314b, and a second set of upstanding cam plates 316a and 316b. Cam plates 314a and 314b preferably have generally flat top portions 320 and have a leading edge 322 disposed distal of both base portion 312 and leading edge 324 of cam plates 314a and 314b. The first set of cam plates are advantageously offset or staggered from the second set of cam plates to balance the fastener driving forces generated within the disposable loading unit during a fastening operation.

As used in the claims, "securing means" is intended to refer to ridges 136 and teeth 138 formed on actuator 110 and pathway 132, respectively, and equivalents thereof.

As used in the claims, "camming means" is intended to refer to the camming wings of the actuator and equivalents thereof.

Although the foregoing description contains many specifics with respect to preferred embodiments, it will be readily apparent to those having ordinary skill in the art that changes and modifications may be made thereto without departing from the spirit or scope of the subject invention as defined by the appended claims. By way of example only, it is contemplated that the housing can be permanently mounted to the stapling apparatus with the disposable loading unit removably mounted thereto. Alternatively, the disposable loading unit can further include the housing, such that the housing is removably mounted to the stapling apparatus. It also is contemplated that greater or fewer cam plates can be included on the actuator.

We claim:

1. A disposable loading unit for a surgical stapling apparatus comprising:

- a) a staple cartridge body having a longitudinal pathway extending therethrough and a plurality of spaced apart retention slots defined therein, each supporting a respective surgical fastener;
- b) a plurality of fastener ejection members disposed adjacent the plurality of spaced apart retention slots and communicating with the longitudinal pathway;
- c) an actuator at least partially disposed within the staple cartridge body and configured to be translated through the longitudinal pathway to contact the fastener ejection members and thereby sequentially eject the surgical fasteners from their respective retention slots, the actuator including a base portion defining a plane and having at least two upstanding parallel cam plates each defining an angled leading edge for contacting the fastener ejection members;

d) a cutting member configured to translate through the staple cartridge body, the cutting member having a blade and a blade support, the blade support including a camming surface spaced from the blade configured to interact with an abutment surface defined within a distal end portion of the staple cartridge body, wherein the staple cartridge body includes a planar tissue contacting surface through which extends a linear slot to accommodate translation of the cutting member, the planar tissue contacting surface defining a tissue contacting plane, the cutting member intersecting the tissue contacting plane during the translation thereof, and moving out of intersection with the tissue contacting plane when the camming surface of the cutting member contacts the abutment surface of the staple cartridge body.

2. A disposable loading unit according to claim 1, wherein the cutting member is pivotably supported at least partially within the staple cartridge body.

3. A disposable loading unit according to claim 2, wherein the cutting member is pivotably supported by the actuator about a pivot axis located distally of the blade.

4. A disposable loading unit for a surgical stapling apparatus comprising:

- a) a staple cartridge body having a longitudinal pathway extending therethrough and at least two rows of spaced apart retention slots defined therein, each slot supporting a respective surgical fastener, the staple cartridge body defining a planar tissue contacting surface having a linear slot extending therethrough, the staple cartridge body further defining an abutment surface formed near a distal end thereof;
- b) a plurality of fastener ejection members disposed adjacent the spaced apart retention slots and communicating with the longitudinal pathway;
- c) an actuator at least partially disposed within the staple cartridge body, the actuator having:
 - i) a base portion; and
 - ii) at least two upstanding parallel cam plates extending from a base portion, each of the at least two cam plates defining an angled leading edge, such that the angled leading edges are longitudinally aligned with the at least two rows of spaced apart retention slots so as to contact the fastener ejection members upon translational movement of the actuator through the longitudinal pathway and to thereby sequentially eject the surgical fasteners from their respective retention slots; and
- d) a cutting member pivotably mounted with respect to the actuator and translatablely slidable with the actuator in the linear slot of the staple cartridge body, the cutting member having a blade and a flange including an upper surface which interacts with the abutment surface of the staple cartridge body, the flange being spaced distally of the blade, the cutting member being pivotable from a first position intersecting a tissue contacting plane defined by the planar tissue cutting surface, to a second position out of intersection with the tissue contacting plane, the cutting member being pivotable to the second position when the camming surface of the cutting member contacts the abutment surface of the staple cartridge body.

* * * * *